***Table S1**. Risk factors for asthma symptoms in subjects with high grey space exposure (≥ 63%): OR and 95% CI.*

Variables	**Symptoms without doctor diagnosis**	**Diagnosis ± symptoms**
Risk factors	**OR (95% CI)**	**OR (95% CI)**
BMI:		
Underweight-Normal weight	**1**	**1**
Overweight	**2.03 (1.29 - 3.19)**	0.92 (0.50 - 1.69)
Obese	**2.57 (1.36 - 4.86)**	1.27 (0.54 - 2.99)
Age:		
≤18	**1**	**1**
>18 and ≤59	0.92 (0.32 - 2.63)	**0.25(0.10 – 0.62)**
>59	0.97 (0.34 - 2.78)	**0.23 (0.09 – 0.56)**
Sex:		
Female	**1**	**1**
Male	**1.76 (1.13 - 2.74)**	0.81 (0.46 – 1.40)
Level of education:		
>13 years	**1**	**1**
>8 and ≤ 13 years	1.28 (0.45 - 3.67)	5.17 (0.66 – 40.32)
<8 years	1.50 (0.55 - 4.09)	3.98 (0.52 – 30.64)
Smoking habits:		
Non-smokers	**1**	**1**
Smokers	**3.04 (1.80 - 5.13)**	0.79 (0.36 - 1.79)
Ex-smokers	1.52 (0.88 - 2.64)	**2.12 (1.12 - 4.01)**
Hours outdoors:		
≥2 hours a day	**1**	**1**
<2 hours a day	**1.65 (1.08 - 2.51)**	1.23 (0.70 -2.17)
% Grey space exposure	0.86 (0.69-1.08)	1.02 (0.75-1.39)

*Statistically significant values are reported in **bold**. **1** reference category. Dependent variable: asthma diagnosis/symptoms, no diagnosis/symptoms= reference category. Independent variables: BMI. The analysis was adjusted for: age, sex, level of education, smoking habits, hours outdoors, % grey space exposure.*

Table S1 shows the results of the multinomial logistic regression model considering the subjects with a high exposure to grey. Asthma symptoms are significantly associated with obesity (OR 2.57, CI 1.36 - 4.86) and being overweight (OR 2.03, IC 1.29 -– 3.19).

***Table S2.** Risk factors for asthma symptoms/diagnosis in subjects with low grey space exposure (< 63%): OR and 95% CI.*

Variables	**Symptoms without doctor diagnosis**	**Diagnosis ± symptoms**
Risk factors	**OR (95% CI)**	**OR (95% CI)**
BMI:		
Underweight-Normal weight	**1**	**1**
Overweight	1.14 (0.87 - 1.63)	0.92 (0.61 - 1.38)
Obese	**1.80 (1.15 - 2.82)**	1.19 (0.70 - 2.00)
Age:		
≤18	**1**	**1**
>18 and ≤59	2.15 (0.88 - 5.27)	0.71 (0.37 - 1.36)
>59	**2.68 (1.09 - 6.58)**	1.23 (0.65 - 2.32)

Sex:		
Female	**1**	**1**
Male	**2.35 (1.64 - 3.36)**	1.21 (0.82 - 1.79)
Level of education:		
>13 years	**1**	**1**
>8 and ≤ 13 years	1.5 (0.43 - 5.27)	1.51 (0.34 - 6.71)
<8 years	2.67 (0.80 - 8.92)	2.07 (0.49 - 8.75)
Smoking habits:		
Non-smokers	**1**	**1**
Smokers	**5.42 (3.49 - 8.41)**	1.42 (0.87 - 2.31)
Ex-smokers	**2.65 (1.69 - 4.18)**	1.21 (0.76 - 1.93)
Hours outdoors:		
≥2 hours a day	**1**	**1**
<2 hours a day	1.30 (0.95 - 1.78)	**1.44 (1.01 – 2.06)**
% Grey space exposure	1.01 (0.87-1.17)	1.05 (0.89-1.23)

*Statistically significant values are reported in **bold**. **1** reference category. Dependent variable: asthma diagnosis/symptoms, no diagnosis/symptoms= reference category. Independent variables: BMI. The analysis was adjusted for: age, sex, level of education, smoking habits, hours outdoors, % grey space exposure.*

Table S2 shows the results of the multinomial logistic regression model considering the subjects with a low exposure to grey. Asthma symptoms in this case are significantly associated with obesity (OR 1.80, CI 1.15 – 2.82).

Calculation of additive measures

Group	GREY	BMI
00	Low	Underweight-Normal weight
10	High	Underweight-Normal weight
01	Low	Overweight-Obese
11	High	Overweight-Obese

Group 00: reference group, low grey exposure with underweight-normal weight. Group 10: high grey exposure with underweight- normal weight. Group 01: low grey exposure with overweight-obese. Group 11: high grey exposure with overweight-obese.

1. Relative Excess Risk due to Interaction (RERI)

RERI: $OR_{11} - OR_{10} - OR_{01} + 1$

2. Attributable Proportion due to interaction (AP)

$$AP = \frac{RERI}{OR_{11}} = \frac{OR_{11} - OR_{10} - OR_{01} + 1}{OR_{11}}$$

3. Synergy Index (S)

$$S = \frac{OR_{11} - 1}{(OR_{10} - 1) + (OR_{01} - 1)}$$

Table S3. Results of the calculation of additive measures for the variable Diagnosis ± symptoms

Variable	RERI (95% CI)	AP (95% CI)	S (95% CI)
Diagnosis ± symptoms	-0.20 (-0.82-0.41)	-0.24 (-1.00-0.51)	0.80 (0.31-1.29)